

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004160**Date Inspected:** 16-Oct-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2200**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Pan Han**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Deviation and Jacking Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector observed the scheduled Partial Joint Penetration (PJP) groove welding of the structural steel grillage to the casting, QC inspection and the verification of the Alternating Current (AC) and the Direct Current (DC) welding parameters on the structural steel plate components for the West Deviation Saddle identified as W2E1. The welding was performed on the rib to rib connections identified as E1Y-12U, E1Y-14U, E1Y-15U, E1Y-16U and E1Y-17U-2. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel Kato Makoto ID 08-5018, Yamashita Masao ID 73-4195 and Kubota Mamoru ID 74-3666.

The Shielded Metal Arc Welding (SMAW) and the gas-shielded Flux Cored Arc Welding (FCAW-G) process were utilized as per the Welding Procedure Specification (WPS) SJ-3011-6 which was also used by the QC inspector as a reference during verification of the welding parameters. The welding was also performed utilizing the Distortion Control Plan, identified as Document Number SJ-3109 Revision 4 Attachments 7 and 8 Step 1 and 2. The welding was performed in the horizontal (2G) position with the work in the vertical plane.

The consumable utilized appeared to be a Hobart Brothers Product and the trade name was identified as Hoballoy 9018-M for the SMAW process which appeared to comply with the AWS Specification A5.5 and the AWS Classification E9018-M-H4R. The size of the electrode utilized was 4.8 mm in diameter.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

The consumable utilized for the FCAW-G process also appeared to be a Hobart Brothers Product and the trade name was identified as TM 95K2 which appeared to comply with the AWS Specification A5.29 and the AWS Classification E90T5-K2C H4. The size of the electrode was 1.6 mm in diameter.

The Quality Control (QC) inspection was performed by Intertek Testing Services (ITS) personnel Pan Han who performed the verification the preheat temperatures, welding parameters and the in process weld inspection during this shift.

Later in the shift this QA inspector observed, at random intervals, the QC inspector performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the surface temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Pan Han appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

Machine Shop # 4

At approximately 02:30 the QA inspector traveled to the machine shop and was escorted by JSW personnel Kunio Nagaya. The QA inspector observed the Tower Saddle Grillage identified as T1-1 was in final stages of the dimensional survey prior to the machining of the rib and stem plate at areas designated as "Mill to Bear." The QA inspector also observed the rough machining of the troughs on the Casting Saddle identified as W2E3. No work was performed on the Tower Saddle Grillage identified as T1-1 at the time of observation.

Machine Shop # 2

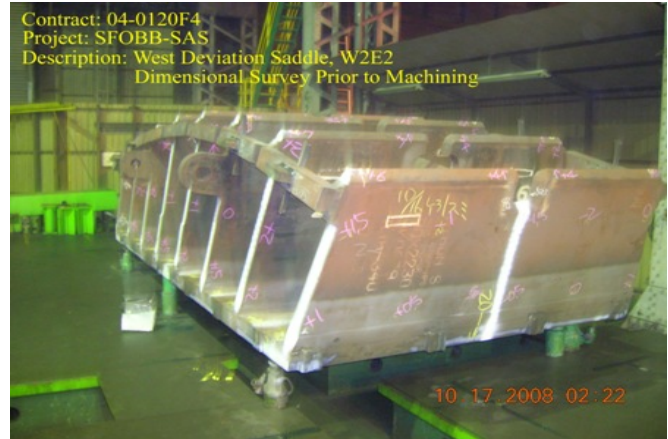
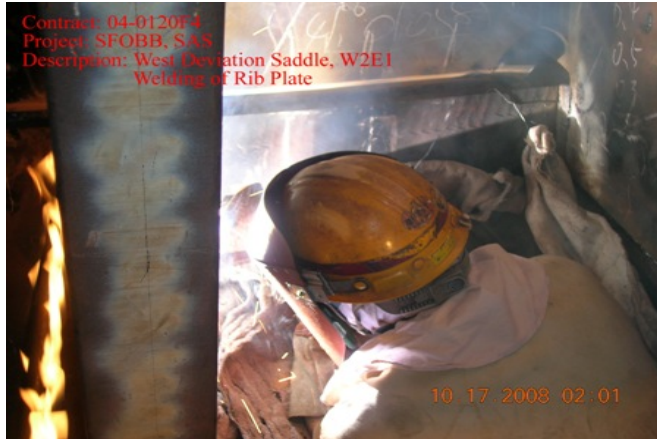
Later in the shift the QA inspector traveled to the machine shop and was escorted by JSW personnel Kunio Nagaya. The QA inspector observed the West Deviation Grillage identified as W2E2 was in the early stages of a dimensional survey prior to the machining of rib and stem plates at areas designated as "Mill to Bear." No work was performed on the W2E2 Grillage at the time of observation.

See Weld Joints in Progress Inspected on page 3 of this report in regards to QA observation of the welding parameters recorded during this shift on this date.

The digital photographs on page 3 of this report illustrates the observations of the activities performed on this date.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	E1Y-17U-2	SJ-3011-6	Pan Han	258 AC	23 AC	150mm/m	178 Degrees C.	Kubota
2	E1Y-15U	SJ-3011-6	Pan Han	350 DC	36 DC	280mm/m	172 Degrees C.	Kato
3	E1Y-13U	SJ-3011-6	Pan Han	330 DC	36 DC	283mm/m	170 Degrees C.	Yamashita

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Lanz,Joe

QA Reviewer